```
<?xml version="1.0" encoding="UTF-8" ?>
- <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="http://www.ciwmb.ca.gov/schemas/swis"
  targetNamespace="http://www.ciwmb.ca.gov/schemas/swis" elementFormDefault="qualified" attributeFormDefault="unqualified"
 - <xs:element name="Inspections">
   - <xs:complexType>
    - <xs:sequence>
      - <xs:element name="Inspection" maxOccurs="unbounded">
        - <xs:complexType>
         - <xs:sequence>
             <xs:element name="InspectionType" type="xs:string" nillable="false" />
             <xs:element name="InputDate" type="xs:date" minOccurs="0" />
             <xs:element name="SwisNumber" type="SwisNumberType" nillable="false" />
             <xs:element name="VersionNumber" type="xs:int" nillable="false" />
             <xs:element name="LocalInspectionID" type="xs:string" nillable="false" />
             <xs:element name="EnforcementAgencyID" type="xs:int" nillable="false" minOccurs="0" />
             <xs:element name="InspectionDate" type="xs:date" nillable="false" />
             <xs:element name="TimeIn" type="xs:string" minOccurs="0" />
             <xs:element name="TimeOut" type="xs:string" minOccurs="0" />
           - <xs:element name="ProgramCode" nillable="false">
             - <xs:simpleType>
              - <xs:restriction base="xs:string">
                 <xs:enumeration value="LEAPeriodic" />
                  <xs:enumeration value="LEAFocused" />
                  <xs:enumeration value="CIWMBClosedSites" />
                 <xs:enumeration value="CIWMBEnforcementAgent" />
                  <xs:enumeration value="CIWMBFocused" />
                   WIS Digital Inspections Project
            </xs:element>
                                                                                              (SWIS DIP)
             <xs:element name="FacilityName" type="xs:string" minOccurs="0"</pre>
             <xs:element name="FacilityLocation" type="xs:string" minOccurs="6"</pre>
             <xs:element name="InspectorName" type="xs:string" nillable="fall")</pre>
           - <xs:element name="InspectorSignature" minOccurs="0"</p>
```

Chris Allen, Information Management Branch California Integrated Waste Management Board

November 5, 2008

## SWIS Digital Inspections: Introduction

- Alternative method for LEAs to submit solid waste facility inspection data in electronic format rather than paper.
- ▶ Two methods initially offered:
  - Data entry by authorized users using a secured web form.
  - Uploading of batch data in specified XML format.
- ▶ Batch data must be uploaded using the XML schema (data specification) provided by the CIWMB.
- Using batch process will require LEAs to seek their own IT assistance—CIWMB cannot provide IT training/consulting.
- Optional program—LEAs can continue with paper forms.
- ▶ Testing Site Available at <a href="http://www.ciwmb.ca.gov/SWIS/DIP/">http://www.ciwmb.ca.gov/SWIS/DIP/</a>



# Project Goals:

- Board response to CCDEH and LEA requests "to set in place XML-based electronic reporting system."
- Develop an approach based on standard industry technologies and practices (XML, web services).
- Use pragmatic technical approaches accessible/adoptable by as many LEAs and their database vendors as practical.
- Implement service relatively quickly.
- Minimize costs to the CIWMB.



# Three ways to submit data!

**Easy:** 

Single inspection data entry using web form

More Complex:

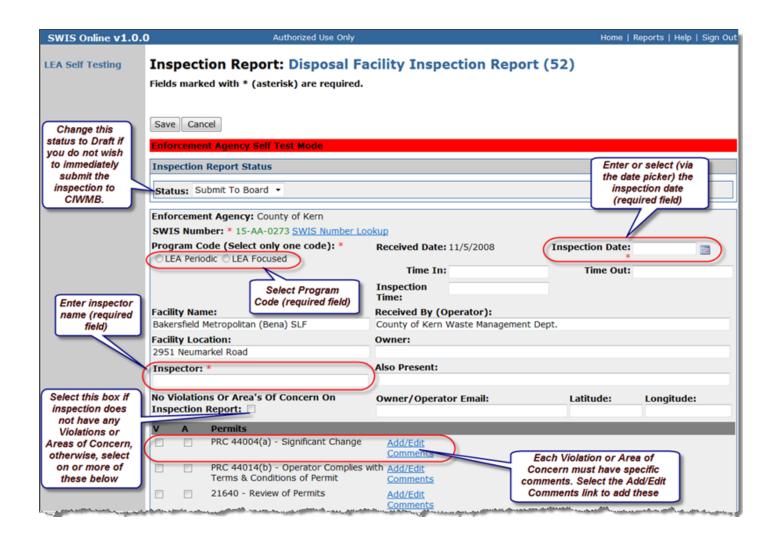
Multiple inspections by uploading an XML data file.

Most Complex:

"Real-time" single or multiple inspection submitted via XML to a web service.



# Single Inspection Data Entry via a Web Form

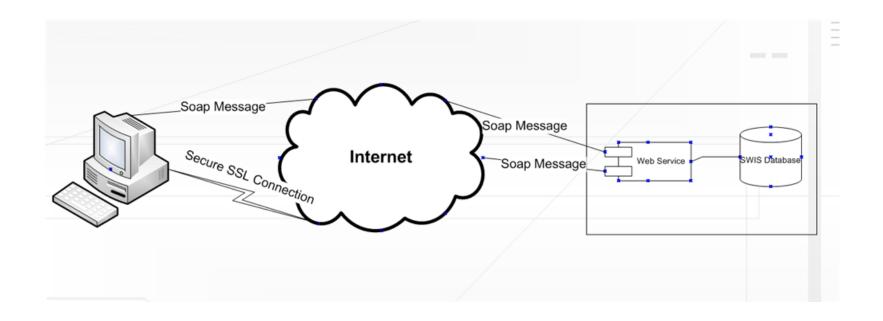




# Batch upload of XML Data

```
<?xml version="1.0" encoding="UTF-8" ?>
 <!-- Sample XML file generated by XMLSpv v2008 rel. 2 sp1 (http://www.altova.com) -->
- <Inspections xsi:schemaLocation="http://www.ciwmb.ca.gov/schemas/swis SWISInspectionv1.xsd"</p>
   xmlns="http://www.ciwmb.ca.gov/schemas/swis"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
 <Inspection>
     <InspectionType>52</InspectionType>
     <InspectionStatus>Draft</InspectionStatus>
     <SwisNumber>15-AA-0050</SwisNumber>
     <VersionNumber>1</VersionNumber>
     <LocalInspectionID>1</LocalInspectionID>
     <InspectionDate>2006-10-30</InspectionDate>
     <InspectionTime>2.0</InspectionTime>
     <ProgramCode>LEAPeriodic</ProgramCode>
     <FacilityName>Arvin Sanitary Landfill</FacilityName>
     <FacilityLocation>T31S R29E, Section 31</FacilityLocation>
     <InspectorName>Charles Bauer, REHS</InspectorName>
     <OwnerName>Kern County Waste Management Department
     <OwnerOperatorEmail>Sample@Somewhere.com
     <RecievedBy>Mailed To Operator</RecievedBy>
     <FacilityLatitude>35-19009</FacilityLatitude>
     <FacilityLongitude>-118.90841</FacilityLongitude>
   - <Regulations>
      <Regulation RegulationCode="PRC 44004(a)" RegulationComment="This section requires, in
        part, that no operator of a solid waste facility shall make any significant change in the
        design or operation of the solid waste facility not authorized by the existing permit,
       nuless the change is approved by the LEA, and conforms with this division and all of the
       regulations adopted pursuant to this division, and the terms and conditions of solid waste
       facilities permit and revised to reflect the change. The facility ceased accepting waste
       from teh public on July 1, 2003 and is no longer consistent with its current solid waste
       facility permis issued on December 29, 1997" SeverityLevel="V" />
      < Regulation RegulationCode="20700" RegulationComment="This section requires that the
        operator maintain a laver of compacted earthen material of a least 12 inches which is to
      the placed with a faces of the fill what no additional solid with will be the exited.
```

# "Real-time" XML Data Submittal to a Web Service





### So How Will This Work...



# How SWIS DIP Program Works: 1) Review Program Web Site

- http://www.ciwmb.ca.gov/SWIS/DIP/
- Subscribe to the Listserv.
- Review program procedures and policies.
  - FAQs
  - Program Participant Data Exchange Agreement
  - CIWMB's Inspection data XML Schema
- Have your relevant staff, contractors, and/or vendors follow links on this site to sign-in to the SWIS DIP Self-Testing System.



# How SWIS DIP Program Works: 2) LEA Uses Self-Service Test Site

- Interested parties access the self-service testing site
  - ▶ Requires acquiring a Cal/EPA WebPass for login (easy to do).
  - Users can perform unlimited informal testing using the web form and/or batch data entry methods.
  - Test submissions will return detailed error messages.
  - When LEA is ready, they perform a "formal" test to demonstrate their ability to use the system.
  - Must consecutively submit a several inspections successfully that meet certain criteria.
  - A successful "formal" test receives "Readiness Code" to included in CIWMB's Data Exchange Agreement application.



# How SWIS DIP Program Works: 3) LEA Submits Data Exchange Agreement

- LEA completes and submits a data exchange agreement to the CIWMB.
  - Includes the LEA's "Readiness Code" from their "formal" test.
  - Specifies who the LEA's primary program & technical contacts.
  - Specifies other users who should have access/rights to view/enter/upload inspection data.
  - > Specifies other aspects of the data exchange agreement, e.g.,
    - LEA's responsible for timely submittal in electronic or paper format.
    - ▶ Email notifications to LEA if submittals overdue.
    - Operator must be provided any updates to inspection data.
    - ▶ All noted violations/areas of concern require comments.



# How SWIS DIP Program Works: 4) CIWMB Approves LEA To Use System

- Assuming LEA has completed a successful "formal" test (web form and/or batch), they will be approved to use the system.
- Users will be granted access to the system.
- Users login with their Cal/EPA WebPass and enter data via web form or upload data in the specified XML format.
- CIWMB will send emails to program and/or technical contacts when any problems or unusual activities occur.
- Authorized LEA Users Use System



# SWIS DIP Testing System

Demonstration

http://www.ciwmb.ca.gov/SWIS/DIP/



# Signing up for SWIS DIP

To access SWIS DIP, you must complete a request form and acquire a Cal/EPA WebPass to sign in to the system. Start at the SWIS DIP home page at

http://www.ciwmb.ca.gov/SWIS/DIP/





### Complete the Invitation Form

Provide the requested information and select Submit.





# Cal/EPA WebPass Invitation

Go to the mailbox of the email address you provided and follow instructions in the email from Cal/EPA Webmaster.





# Cal/EPA WebPass Invitation

Email will direct you to a Cal/EPA WebPass account creation page. Provide the information requested and select "Create My Account".





# Cal/EPA WebPass Invitation

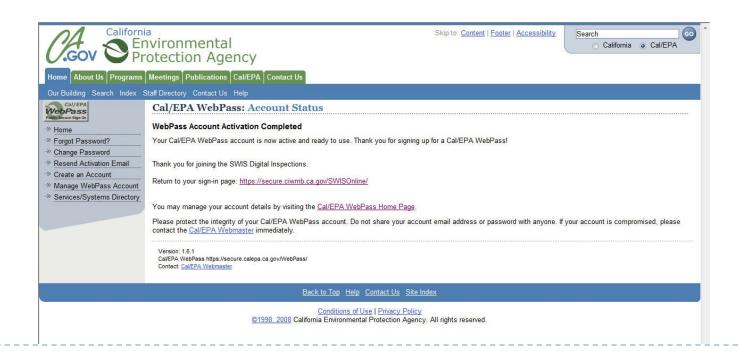
- Go back to the mailbox of the email provided and check for another email from the Cal/EPA Webmaster. Select the link in the message to activate your account.
- Important: Don't skip this step!





# Cal/EPA WebPass Completed

- You will be directed to a web page indicating your account has been activated.
- Follow the "Return to your sign-in page" link on this page to access SWIS DIP.





# Cal/EPA WebPass Confirmation

You will receive a final confirmation email from the Cal/EPA Webmaster confirming your WebPass and including a link to the SWIS DIP system.





# SWIS DIP Testing System

Demonstration

http://www.ciwmb.ca.gov/SWIS/DIP/



# Sign In with Cal/EPA WebPass





# Sign In with Cal/EPA WebPass

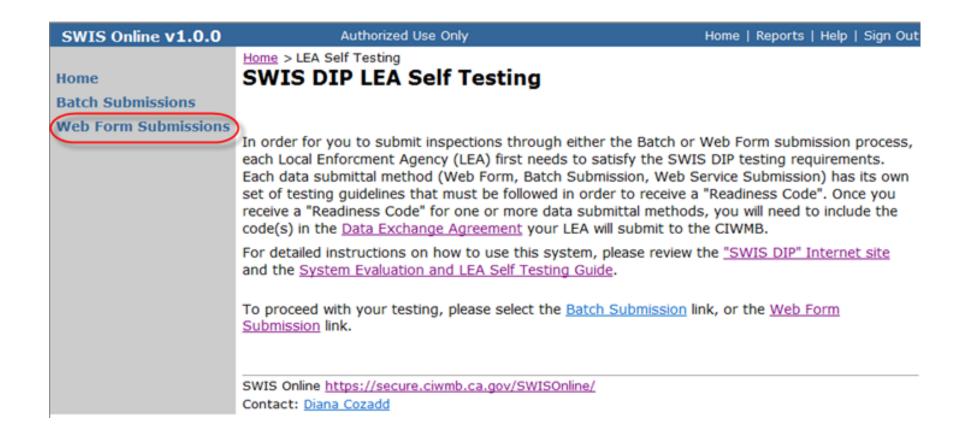




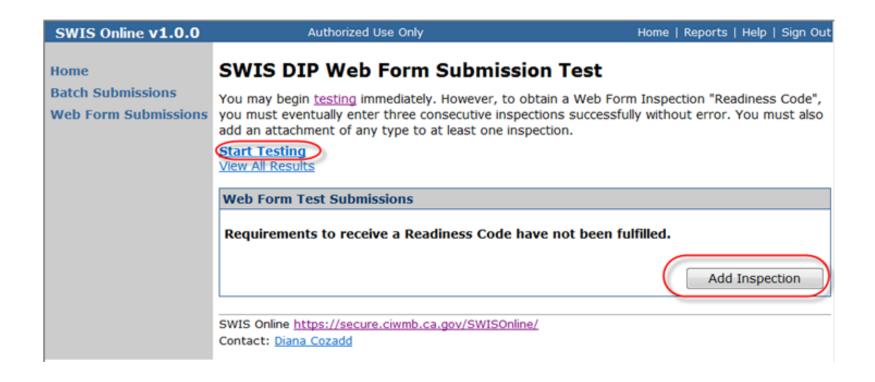
# Go to LEA Self Testing



#### Select Web Form Submission

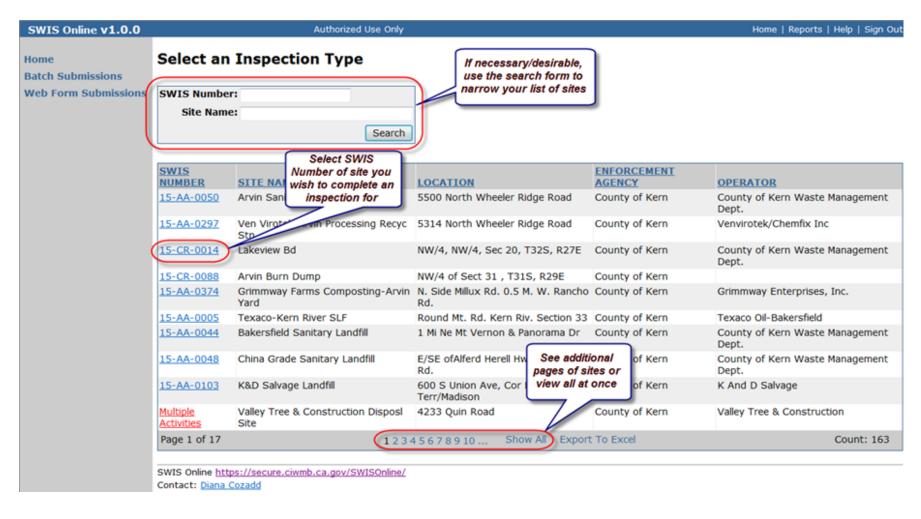


# Add a Test Inspection

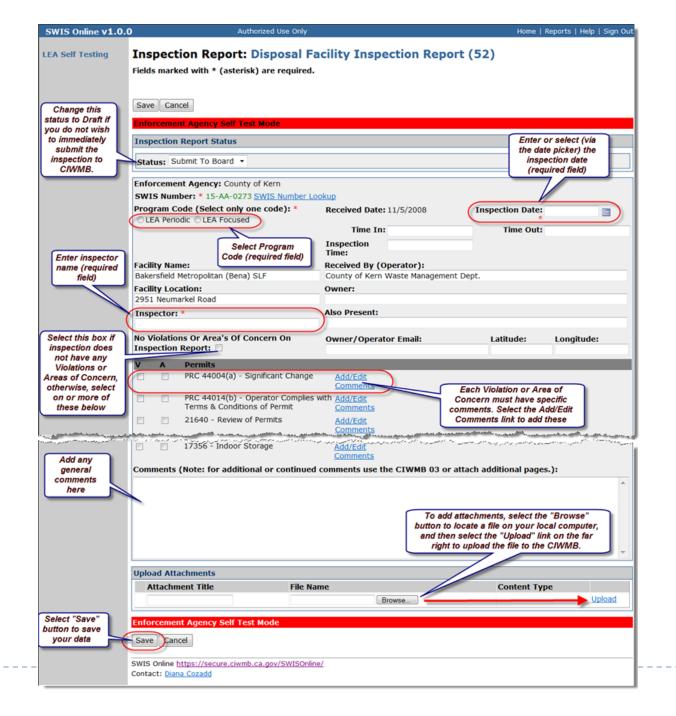




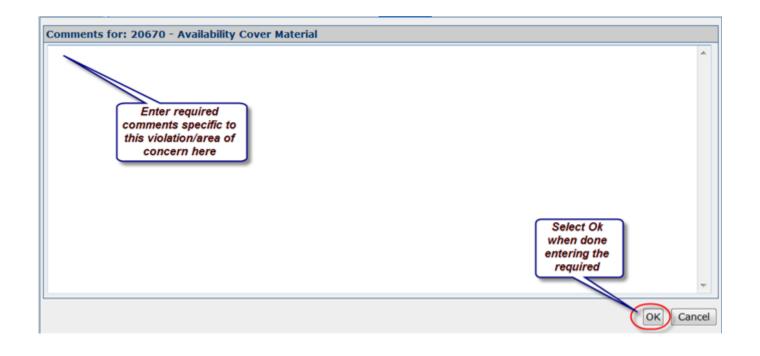
# Select inspection's SWIS site



\_\_\_\_\_\_

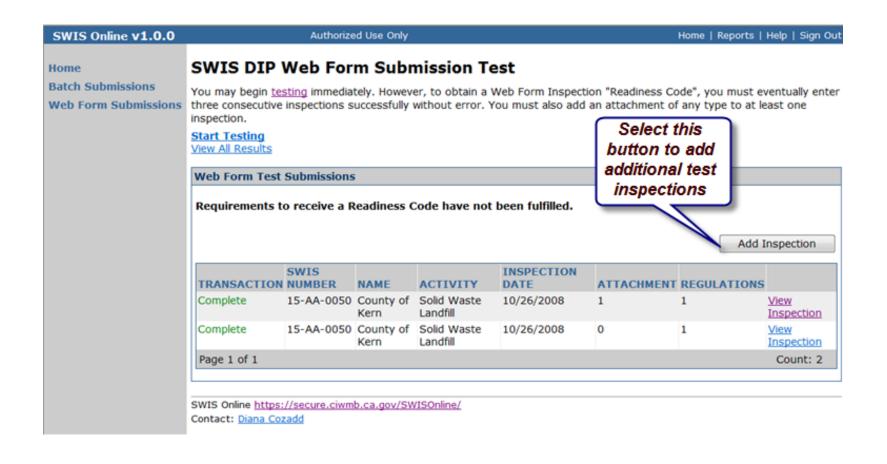


# Add comments to a Violation/Area of Concern

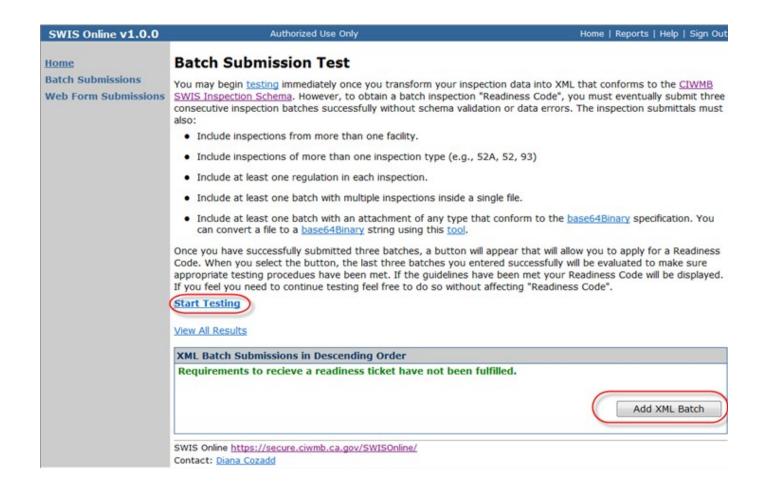




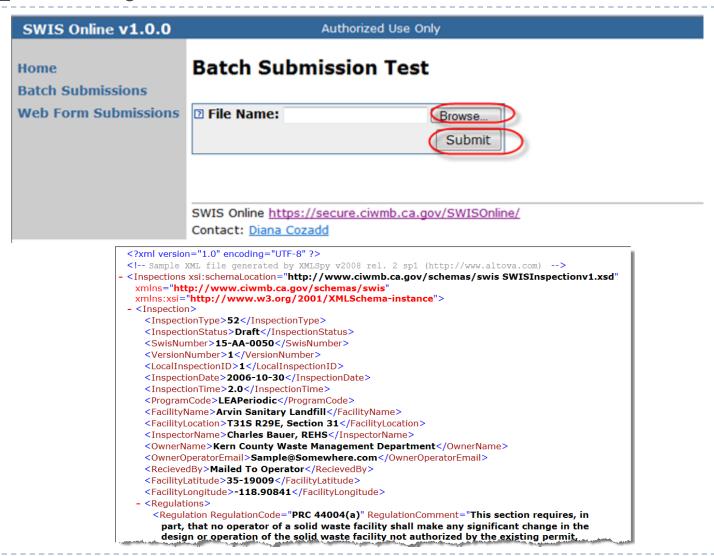
# See your inspection / Add more...



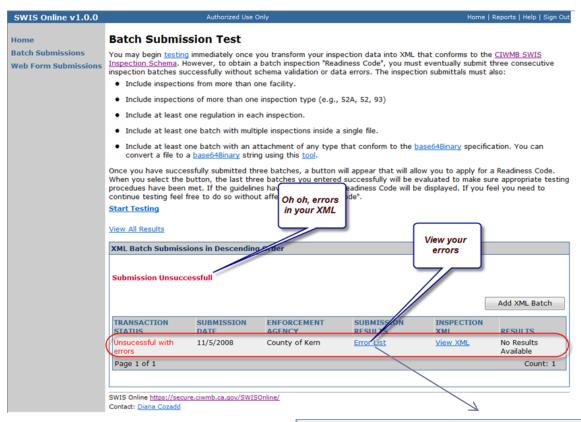
#### Add an XML Batch Submission



# Upload your XML batch file



### Submission Results



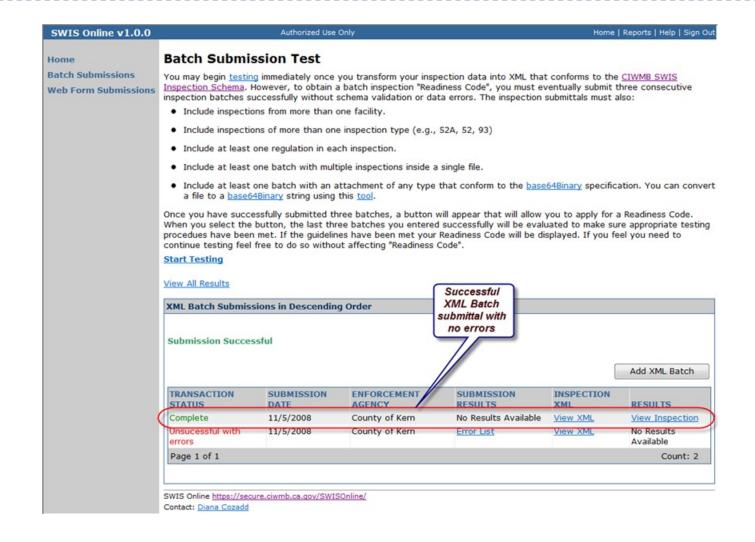
#### XML Batch Inspection Errors

#### **Schema Validation Errors**

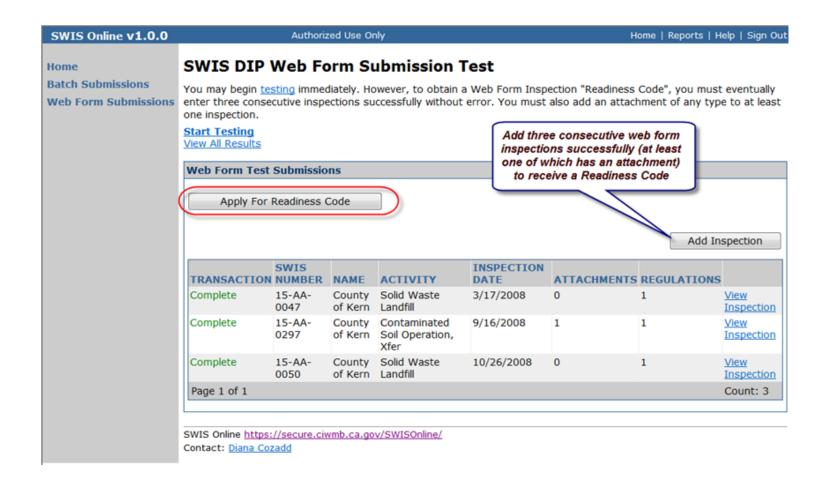
The 'http://www.ciwmb.ca.gov/schemas/swis:SwisNumber' element is invalid - The value '15-AA-005012' is invalid according to its datatype 'http://www.ciwmb.ca.gov/schemas/swis:SwisNumberType' - The Pattern constraint failed.

The 'http://www.ciwmb.ca.gov/schemas/swis:InspectionDate' element is invalid - The value '2006-13-30' is invalid according to its datatype 'http://www.w3.org/2001/XMLSchema:date' - The string '2006-13-30' is not a valid XsdDateTime value.

### Results from a successful XML batch

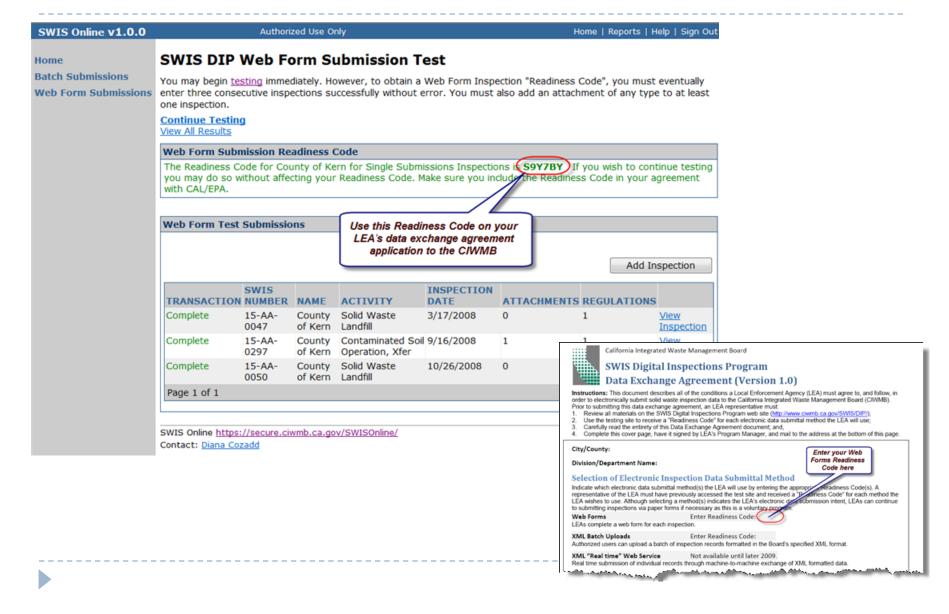


# Add more web form submissions to receive a Readiness Code





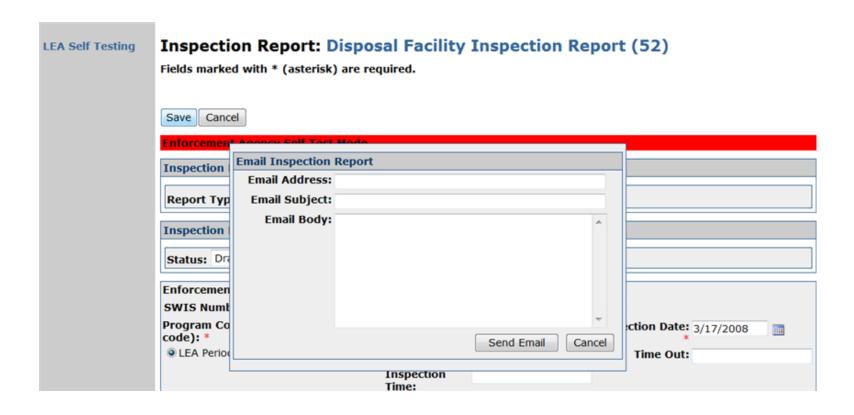
### Readiness Code



# Draft Inspections and Emailing Inspections



### Fill out Email subscreen





# Printable Inspection Report



California Integrated Waste Management Board

#### Disposal Facility Inspection Report (52) - Draft

SWIS Facility File Number (99-xx-9999) Inspection Date						)ate	Program Code			
15-AA-0050 10/30/						0/2006 12	6 12:00:00 AM LEA Periodic		LEA Periodic	
Inspection Time 2.0 Time					e In			Time Out		
Facility Name							Received By			
Arvin Sanitary Landfill							Mailed To Operator			
Facility Location							Owner Name			
5500 North Wheeler Ridge Road							Kern County Waste Management Department			
Inspector							Also Present (Name)			
Charles Bauer, REHS										
_		ACLITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF THE DIVISION 30 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 14 AND TITLE 27 CALIFORNIA CODE OF REGULATIONS (COR)								
Α	٧	Regulations								
Х		20820 - Drainage/Erosion Control								
		Comments: See Comments for PRC 44004								
	Х	PRC 44004(a) - Significant Change								
		Comments: This section requires, in part, that no operator of a solid waste facility shall make any significant change in the design or operation of the solid waste facility not authorized by the existing permit, nuless the change is approved by the LEA, and conforms with this division and all of the regulations adopted pursuant to this division, and the terms and conditions of solid waste facilities permit and revised treflect the change. The facility ceased accepting waste from teh public on July 1, 2003 and is no longer consistent with its current solid waste facility permis issued on December 29, 1997								
	Х	20700 - Intermediate Cover								
		Comments: This section requires that the operator maintain a layer of compacted earthen material of a least 12 inches which is to be place on all surfaces of the fill where no additional solid waste will be deposited within 180 days to control vectors, fires, odor, blowing litter, and scavenging. As referenced in the Vector Engineering Intermediate Cover Thickness report, November 2003, the existing intermiediate countries thickness ranges from 1 inche to 9.33 feet from the ground surface down to the top waste as measured by the vector Engineering, Inc. st (Section 4.3 Existing Intermediate Cover Thickness, Appendix A, Arvin Sanitary Landfill Final Closure Plan, October, 2005). In random sampling table provided by Vector Engineering, Inc., in the Arvin Landfill's Intermediate Cover Investigation Report, were 53 sampling excavation sites located on the intermediate fill which had measurements of 6 inches or less to the top of waste. In addition, a depth to tof waste isopach map was provited by Vector.								

# Why Should I Enter Data via Web Form

- May not be relevant if already collected data in an inhouse or commercial data system.
- Improved accuracy and consistency—web form will check/validate entry. Key fields automatically enter SWIS facility and inspection type.
- Ability to generate readable, professional-looking inspection reports/outputs to emailed and/or mailed.
- Notes captured via your data entry—assists you, the operator, and provides public transparency.
- Approach requires minimal IT assistance and costs.



# Uploading Data in Batch

- Uses XML and other industry standard technologies.
- Useful for those who collect their inspection data in an inhouse or commercial database.
- Detailed error messages provided for error batches.
- Entire batch will not be accepted until it is entirely "correct" (i.e., is validated against the CIWMB's SWIS DIP XML Schema).
- Public web services will be available for lookup values used in the XML Schema (e.g., program code, image type, etc.)
- Attachments embedded in the XML submission or later added manually to inspections.
- Each inspection record must have a globally unique ID provided to the Board.
- Specifications available to vendors/interested parties.



## Key Issues and Concerns 1

- ▶ This is a voluntary program.
- This new process does not mandate any particular business process for collecting data.
- Digital photos and attachments are supported.
- All project specifications and policies will be publicly available to all interested parties.
- ▶ This project is **not** about laptops or PDA access, but LEAs could certainly use such devices to collect information prior to submittal to CIWMB.
- ▶ LEAs can use grant funds to pay for [some] costs.



# Key Issues and Concerns 2

- Submitting XML batch uploads requires IT expertise.
- Going "paperless" may require LEAs to change their internal business processes.
- CIWMB will minimize breaking changes to the XML schema once in production. Any breaking schema changes announced well in advance.
- Who can help LEAs? LEA's IT staff, IT contractors, LEA vendors providing "environmental tracking" software.



## Next Steps / Call to Action

Subscribe to the SWIS DIP Listserv

http://www.ciwmb.ca.gov/Listservs/ListSubscribe.asp?LID=80

- Review the materials on the SWIS DIP project web site <a href="http://www.ciwmb.ca.gov/SWIS/DIP/">http://www.ciwmb.ca.gov/SWIS/DIP/</a>
- Have your technical staff or database vendor review the SWIS DIP web site and use the SWIS DIP Self-Test System to evaluate if the program will work for you.



### Questions and Answers

### Program Information, Documents, etc.:

SWIS DIP Web Site: http://www.ciwmb.ca.gov/SWIS/DIP/

### After you have read materials above, contact:

CIWMB SWIS DIP Coordinator:

Diana Cozadd dcozadd@ciwmb.ca.gov

CIWMB Technical contact:

Chris Allen callen@ciwmb.ca.gov

### The final version of this presentation:

http://www.ciwmb.ca.gov/SWIS/DIP/Presentations/SWISDIPLEAConference.ppt

